# 7. Utilities

The Utilities option allows you to install (XINSTALL) and run (XRUN) any PCGEMS or Non-PCGEMS software under any option in PCGEMS. These programs can also be run from the Utilities Selection Menu without prior installation and without leaving PCGEMS. Also, with this option you may change the PCGEMS configuration file (CRFIG) and calculate the source X and source Y coordinates in meters relative to the primary source, which you need for the ISCLT2 model (DXDYCALC).

## 7.1 Selecting a Utilities Program

The menu shown in Figure 7-1 appears when you select this option.

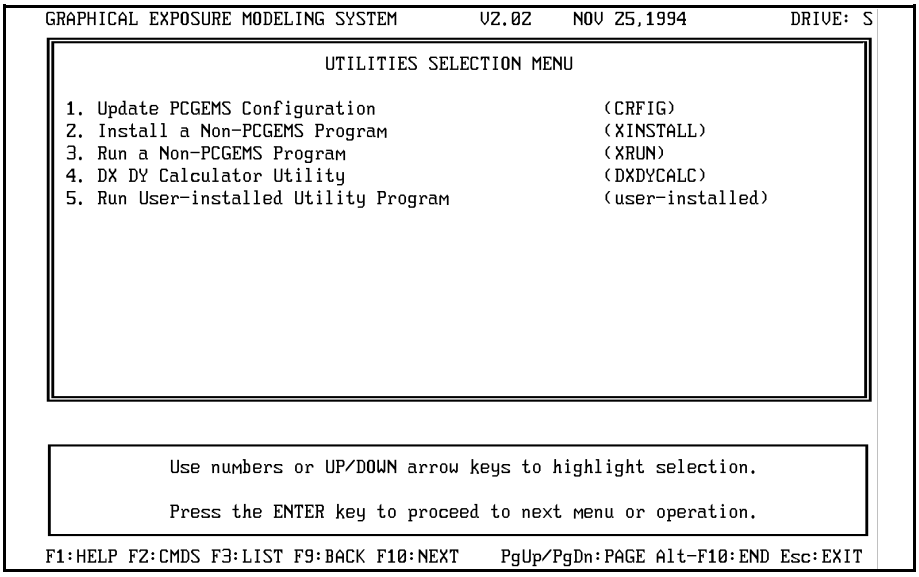


*Figure 7-1. The Utilities Selection Menu*

The programs available in this section are discussed below.

## 7.2 Changing PCGEMS Configuration File (CRFIG)

This utility routine allows you to change the decisions you made when you first created the configuration file (described in Chapter 1, Subsection 1.3 "Loading PCGEMS"). If you select this program, the menu shown in Figure 7-2 appears.

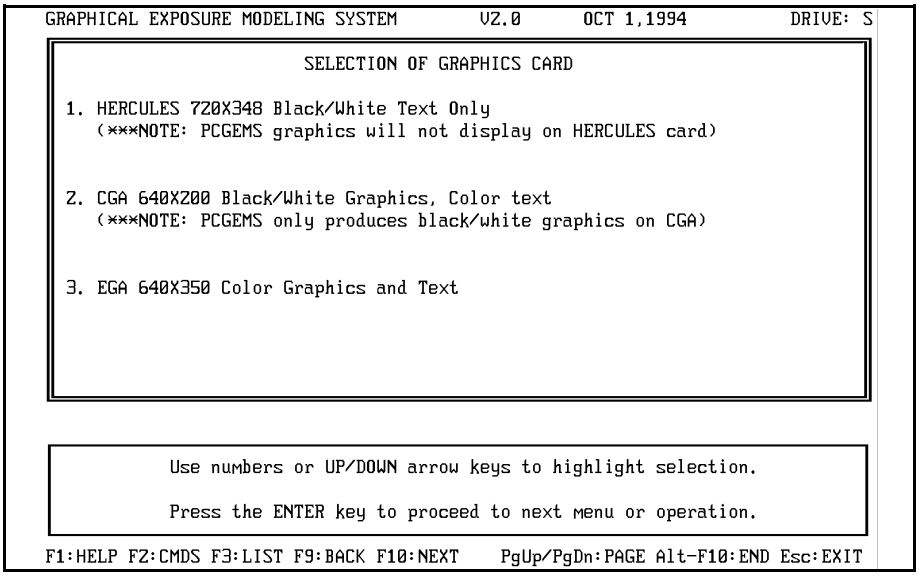


*Figure 7-2. Selection of Graphic Modes Menu*

The cursor will highlight the selection you made previously. Move the cursor to the graphics adapter option you want and press ENTER. This and the following menus are the same as those that appear when you first create the configuration file, and are explained in Subsection 1.3 of Chapter 1. Refer to that section if you have any questions about any of the prompts. The default values for the prompts in these menus will be the choices you made when you first created or last edited the file.

The menu shown below in Figure 7-3 appears next. To make changes to the paths, use the arrow keys to move the cursor to the appropriate location on the path where you would like to make changes and use the SPACE BAR or BACKSPACE key to delete.

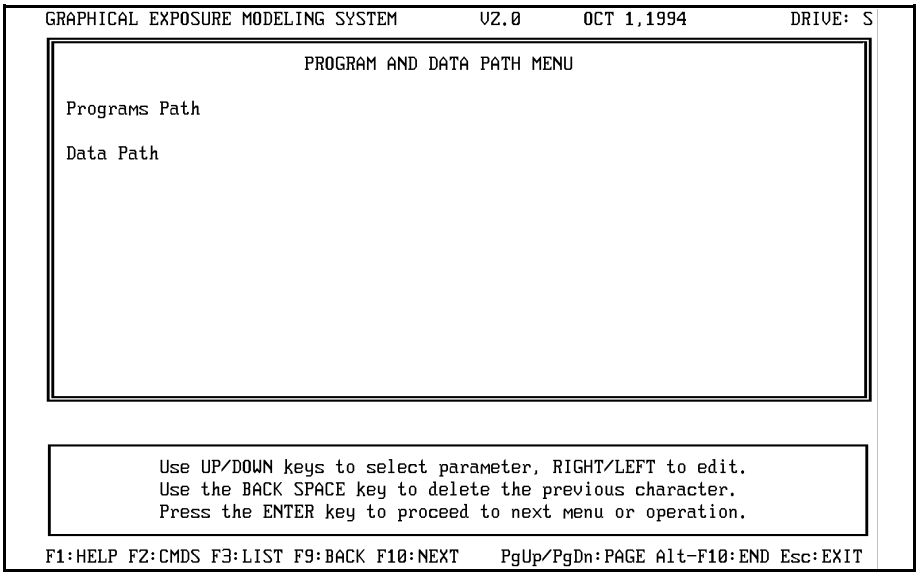


*Figure 7-3. Path Specification Menu*

When you are through making changes, press ENTER and the menus shown in Figures 7-4 and 7-5 appear.

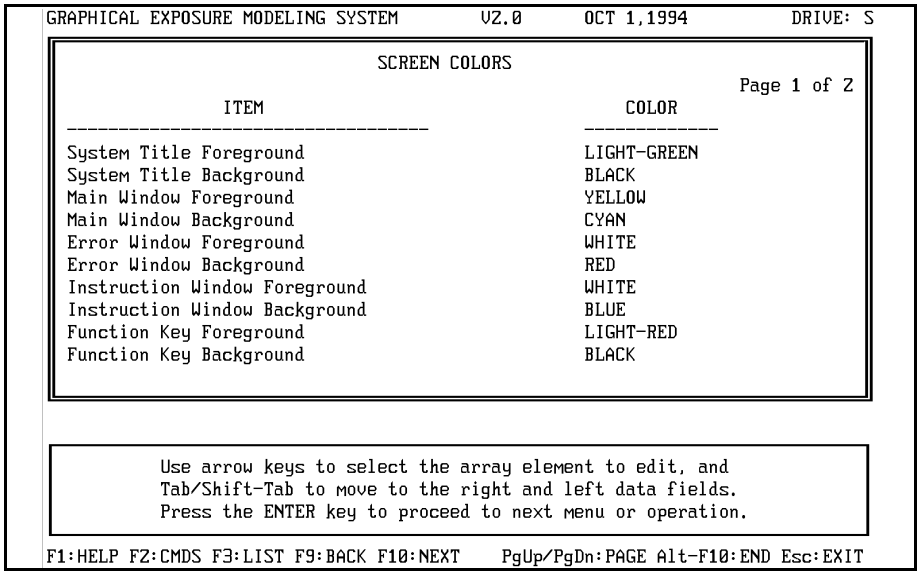


*Figure 7-4. Color Specifications Menu - Page 1*

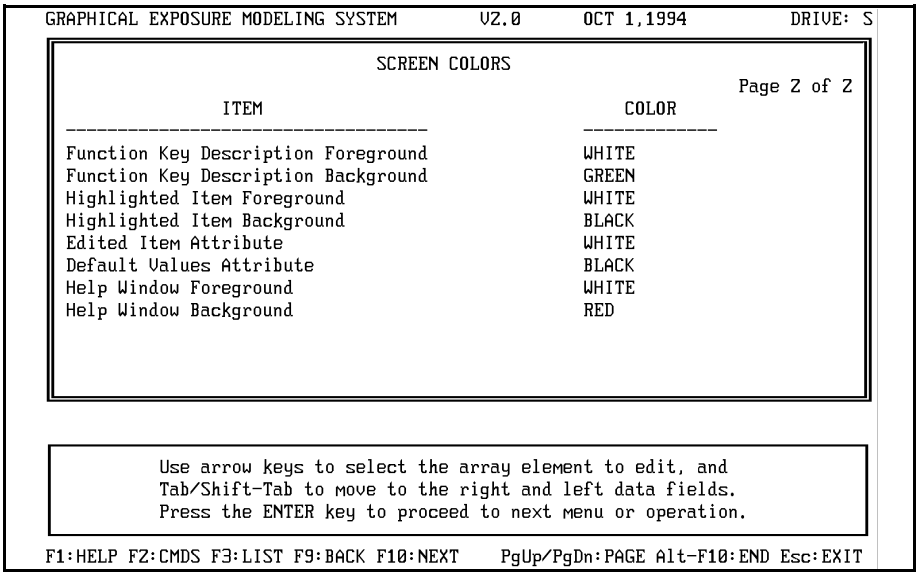


*Figure 7-5. Color Specification Menu - Page 2*

Change the colors to suit your taste. You cannot choose light colors for the background sections. The menu screen colors will be reset to the colors you enter. When you press ENTER, you will see the results of your editing as soon as you exit this program.

## 7.3 Install a Non-PCGEMS Program (XINSTALL)

If you wish to keep your non-PCGEMS programs organized and a permanent part of your PCGEMS directory, use the second option in the Utilities menu, "Install a Non-PCGEMS Program". To choose this program, position the cursor over the option and enter the ENTER key. The menu in Figure 7-6 appears.

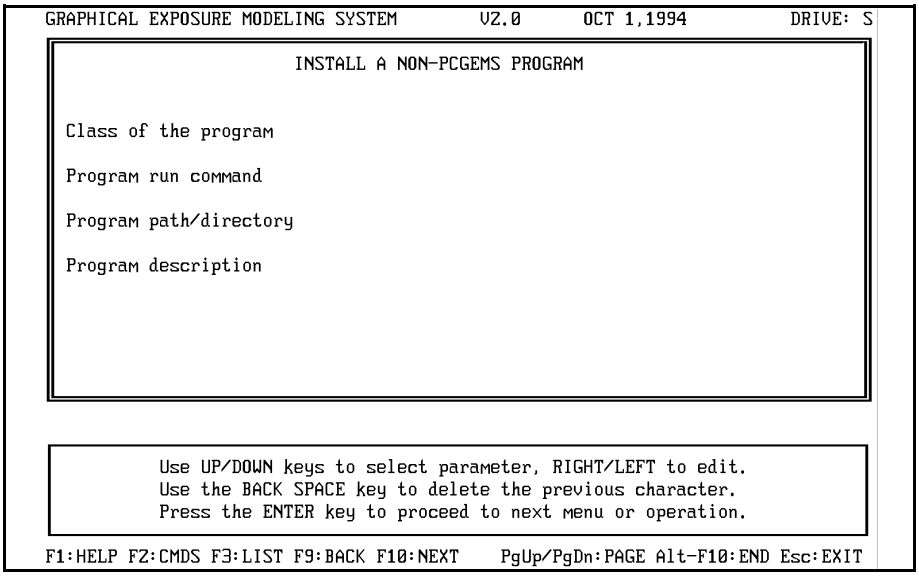


*Figure 7-6. Install a Non-PCGEMS Program Menu*

Under "Class of the program," enter the class under which you wish to install your program. The six classes are listed below. You need to enter only the appropriate class name (e.g. MODEL).

| CLASS | PCGEMS MENU TITLES |
|---|---|
| MODEL: | Environmental Modeling |
| EST: | Chemical Property Estimation |
| DM: | Data Management |
| GRAPH: | Graphics |
| COMM: | Communications |
| UTIL: | Utilities |

The program run command is the command the user types to activate the program.

For example, to use PCPLOT, the program run command is "PCPLOT."

The program path/directory tells PCGEMS how to locate the program. To locate a WordPerfect Program that is located in its own directory (WP) on the C: drive, you would enter "C:\WP". If it is a subdirectory under a directory, you would enter the subdirectory path as well. If, for example, WordPerfect were in a subdirectory under a directory named after you, you would enter "C:\(YOURNAME)\WP". If, on the other hand, the program was on a floppy diskette on the A drive, you would enter "A:\".

The program description is for use in identifying and selecting the program when it appears on the menu screen. You may want to supply the reason one would use that specific program or provide more information about the program for other users. This program information is stored, along with the program name and date of entry, in the PCGEMS class you entered earlier. Shown below is an example of the program information you would see once all the information is entered and the program is installed in a specific class.

**WP 10/12/90 WordPerfect Version 5.0, file editor**

Next, you need also to install the XRUNNPC program before you can actually run the program. Since this program is part of the core system, you should have loaded it when you first loaded PCGEMS. Once you have installed the program, you may run it. To do so, proceed to the menu for the class in which you installed it.

If, however, you wish to use a program only once and have no wish to store it under the PCGEMS directory then you are well advised to use the XRUN Program instead (Subsection 7.4).

## 7.4 Run a Non-PCGEMS Program (XRUN)

This option allows you to run a non-PCGEMS program immediately without installing it. When you select this option, the menu in Figure 7-7 appears.

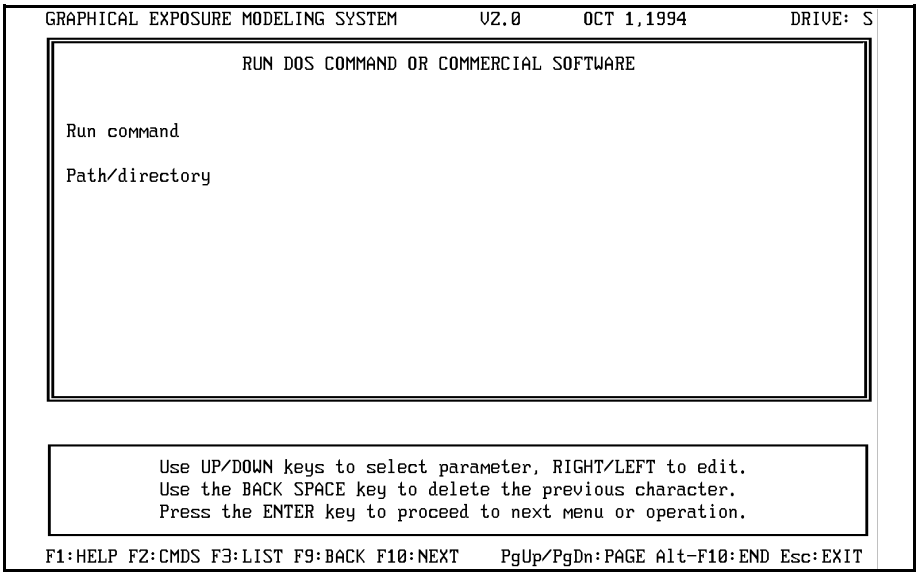


*Figure 7-7. Run a Non-PCGEMS Program Menu*

The program run command requested in the menu is the command that activates the program you wish to use. The directory path indicates to PCGEMS the location of the program. If the program is located on the C: drive, in a separate directory of its own, you would enter thus: C:\DIRECTORY NAME. To run the program, PCGEMS requires both the correct run command and the proper path, so it is suggested that you verify both the run command and path directory before you attempt to use the program in PCGEMS.

Remember that running a non-PCGEMS program under this option is a temporary option. If you do plan to use that program again, it is recommended that you install it permanently under the PCGEMS directory using the option described in Section 7.3: Install a Non-PCGEMS Program.

## 7.5 DX DY Calculator (DXDYCALC)

This program was designed to support the ISCLT2 program (Subsection 3.2). ISCLT2 is an atmospheric model that is used to assess the air quality impact of emissions from the wide variety of sources associated with an industrial source complex. The area surrounding a continuous source of pollutants is divided into sectors of equal angular width, corresponding to the sectors of the annual frequency distribution of wind direction, wind speed, and stability. Annual emissions from the source are partitioned among the sectors according to the frequencies of wind blowing toward the sectors. The concentration fields calculated for each source are translated to a common coordinate system (either polar or Cartesian) and summed to obtain the total due to all sources.

This utility will calculate the source X and source Y coordinates in meters relative to the origin of the reference grid system. The X and Y coordinates are the DX and DY parameters that are required in the ISCLT2 model input file. The source characterization menu in the Build ISCLT2 Input File option has the DX and DY parameters at which you enter these calculated values. The distance and direction (degrees from north) for each source (a maximum of ten sources are allowed) are also given in the output.

When you choose this program, the menu in Figure 7-8 appears.

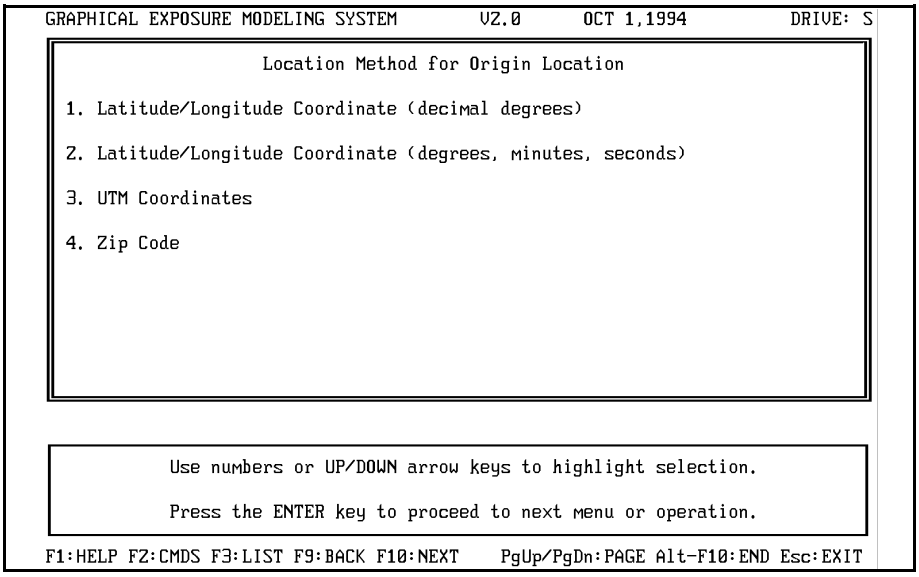


*Figure 7-8. Primary Source Location Method Menu*

Choose the location method that you want to use. Keep in mind that the zip code location method requires the Zipcode dataset. If PCGEMS does not find the dataset, it will prompt you for it. The menu that subsequently appears contains prompts consistent with your selection in the previous menu; that is, latitude/longitude values in decimal degrees, or in degrees, minutes, and seconds; UTM zone with northing and easting; or the U.S. postal zip code.

When you have entered the location for the origin of the grid, a menu will appear, asking for the location method you wish to use for the sources. It is similar to the menu shown in Figure 7-8 and so is not shown here. When you have selected a location method for the sources, you will see the secondary Sources menu.

Enter the number of sources (maximum of ten) that you plan to model. When you have entered the number of sources, you will see an array editing menu requiring the location information for each of the sources. The location information asked for depends on the location method type and the number of sources and so is not illustrated here. It should be noted, if you are using DXDY CALC to calculate DX and DY for use with the ISCLT2 model, that the coordinates (location information) should represent the source center for stack and volume sources, and the Southwest

corner for area sources.

When you have entered the locations for all the sources, you will see a menu asking for the output label. This label will allow you to identify at the later date the output file created for this session. This is important since you may want to refer to the output file before you actually run the ISCLT2 model. When you have entered the output label, you will see the output. It will give you the DX and DY coordinate relative to the origin for each source, as well as the distance and direction (in degrees from north) from the origin. The name for the output file is automatically generated and consists of the letters "DXDY" along with a three-digit number consistent with the number of output files created by this program up to this point. The file extension is ".OUT".

## 7.6 Run User-Installed Utilities Programs

Use this capability to access any of your own utilities programs. To install a non-PCGEMS utilities program under PCGEMS, you must do two things:

1. Install the program using the XINSTALL function of PCGEMS's utilities. To do so, proceed to the first option, "Install a Non-PCGEMS Program". Refer to Subsection 7.3 for more information on this program and what you should enter for this program. Keep in mind that once you have installed a program under this option, the program name and path indicating to PCGEMS where it is located will always be listed under this option. However, if PCGEMS does not find the program where you indicated it would be, the listing will be deleted automatically.

2. Install the XRUNNPC program. If you have installed the XRUNNPC program in the program path in the PCGEMS configuration file, you may run your utility program. The information that you entered while installing the program to identify it should appear on the screen when you select this option if you have installed the program correctly. When the cursor is over the program name, press ENTER to access this program.

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